INTRODUCTORY ADDRESSES

TO THE

20th Session, 1869-70,

OF THE

Medical Department of Georgetown College,

BY

Prof. N. YOUNG, M. D.,

AND

Prof. J. H. THOMPSON, M. D.

WASHINGTON, D. C.
PRINTED BY W. H. MOORE, 484 ELEVENTH STREET.
1869.

ADDRESS

OF

NOBLE YOUNG, M. D.,

DELIVERED AT THE OPENING OF THE

TWENTIETH ANNUAL COURSE OF LECTURES

OF THE

Medical Department of Georgetown College,

October 1, 1869.

WASHINGTON, D. C.
PRINTED BY W. H. MOORE, 484 ELEVENTH STREET.
1869.

CORRESPONDENCE.

WASHINGTON, D. C.,
October 8th, 1869.

DEAR SIR:

In behalf of the Senior and Junior Classes of Georgetown Medical College, we have the honor to request a copy of the Address delivered by you on the 1st inst., with your permission to publish the same.

Very respectfully yours,

R. A. NEALE,
J. PARSONS,
C. P. BAKER,
} *Committee.*

PROF. NOBLE YOUNG, M. D.,
President of Faculty.

CITY OF WASHINGTON, D. C.,
Oct. 11, 1869.

MESSRS. RICH'D A. NEALE, JNO. PARSONS, C. P. BAKER,
Comm'ee of Class of Med. Dep., Georgetown College, '69–'70:

GENTLEMEN:—

Your favor of the 8th inst. has been duly received, asking for a copy of my Address delivered on the 1st inst., for publication. It is, of course, placed cheerfully at your disposal.

I esteem the compliment the more highly, believing it to be personal, as the Address has no merit entitling it to publication.

Very resp'y,
Your obd't serv't,
N. YOUNG.

ADDRESS.

GENTLEMEN OF THE MEDICAL CLASS OF '69–'70:

The kindness of my colleagues has given me the privilege of welcoming you to these halls to enter upon the study of subjects necessary to qualify you to enter the ranks of the Medical profession. It is an interesting study, one in every way calculated to satisfy the philosophic searcher after truth as well as to qualify the practical to enter upon a career of usefulness. It is a never-ending study: the subjects connected with the study of Medicine, so-called, are dependent upon laws of nature, always developing something new, always progressing towards perfection; frequently the path is clouded; again, illuminated by the brightness of truth; here an error in our conceptions, there a correction, until a law stands revealed, based upon immutable truths—supported by facts, a fair philosophic deduction. Yet though their laws exist and have existed through all time, governing and to govern the varied operations of the universe, our imperfect means are not yet equal to unravel all their mysteries; it is this which incites to investigation, which demands the garnering up of facts, prompts the patient pursuit, until finally the toil of the student is rewarded with success. Precedents, by the accumulated knowledge of antecedent wisdom, rules, and doctrines are established by such intelligence as our finite nature will permit, and are acquiesced in; those give data, fixed points from which to reason and to guide, a reference to them settling a disputed point. Not so the student of nature; a newly discovered fact may undo the whole structure of what seemed to be a well-established law, his march is onward, upward; progresing; he approaches nearer and nearer to that perfect knowledge which guided the great Creator in making those laws so perfect as to be incapable of improvement; his struggle is towards the infinite, his effort towards the attainment of a thorough knowledge of all the operations of nature. What is the limit? An answer is

only to be offered as generation after generation pushes forward the horizon of knowledge.

Compare the amount of knowledge considered sufficient to enable the student to enter the profession of Medicine, only fifty years ago, with that which is now acknowledged to be indispensable. The means and appliances for acquiring this knowledge, then and now, and some estimate may be made of the advances of Medical Science. Note the advanced position of the Physiologist and the Chemist of this day and the Pathological and Therapeutic knowledge consequent upon their discoveries. Why, a library of that day is a mere literary curiosity. This increase in the amount of elementary knowledge required of the student of this day, though seemingly too great for attainment, and which is really too much for the limited term of collegiate life, should not deter him, but should rather operate as a stimulus to his ambition: he can acquire in the few years which are required in our institutions the elements of the knowledge needed for entrance upon the practice of Medicine, but it is only the very first elements, the knowledge of how to study and what to study; he must continue that study, the study of rudiments positively after he is accredited as a physician; if he does not, he never can become a well educated physician, never more than a routine practitioner, capable perhaps, if a sensible man, of being useful, but never a cultivated, educated and intelligent Medical philosopher—incapable of taking more than a superficial view of a case and unequal to any profound investigation. The want of elementary education is felt in every pursuit or profession by those who have either neglected it or have been unable to procure it, rendering inefficient to a certain extent the efforts of the most intelligent, but to the physician, this early training is still more important than to any other. There is a time to acquire this which must be used or the error is irreparable; after he has entered upon his professional career, his time will be so fully occupied by a more advanced grade of knowledge, as to render it next to impossible to look back and acquire that which has been neglected, and which he finds of the first necessity to his progress.

It would be better for all if the term of collegiate training could be extended, and such an education acquired previous to entering upon the study of Medicine as would facilitate the student's efforts; he would study with more satisfaction and be better prepared to

enter upon his responsible duties, but in our country this cannot yet be effected. Popular opinion is opposed to protracted preparation; the sentiment is rather in favor of commencing a career in anything as soon as possible, and learning as we go; this involves, as before said, a continued study during a busy life of subjects belonging properly to the collegiate term, yet this can be and is every day accomplished. Our Medical men trained in our schools in this way stand amongst the very first in the world, in information as well as ability, comparing most favorably as teachers as well as practitioners, leading the way as explorers of truth, and teaching the world the most efficient practical application of doctrines established and means discovered.

We propose to afford you the means in our institution to acquire this preparatory education; every facility will be given to your efforts in this direction; we will study together the mysteries of Medicine, while our experience will be used to anticipate obstructions to your course, to correct errors and assist you through difficulties, sometimes formidable to beginners. In those departments where acquired knowledge will be applied to the elucidation of doctrines, the establishment of principles and their practical application to the management of disease, as well as the correct understanding of its phases, the experience of our more mature years and previous examination of such subjects will be given to assist you. So much of error has been discovered in what men considered well-established theories; so many new facts have been brought forth by experiment and observation, as to have created a revolution in Medical science. In many cases, though error is discovered, no well-established correction has been applied; new doctrines are advanced, it is true, but many of them require to be taken "*cum grano salis;*" they require examination, sifting, testing, to ascertain whether or not the deduction for facts given are legitimate; whether observations are correct. These new doctrines will be explained to you; we will study them together, treat them fairly but rigidly, and endeavor to arrive at correct conclusions. While there will be no obstinate tenacity of preconceived opinions, no blind adherence to old and familiar doctrines, no servile obedience to the dogmas of schools—there will be no joining in the wild halloo of the career of Young America as applied to Physic; no following the lead of every innovator, or like the brainless vota-

ries of Fashion, bowing with adulation to every nod of their Deity. We will treat you more fairly; your object is the acquisition of truth, whether old or new; truth based upon facts and sustained by the test of experience; our duty is to aid you in this pursuit, and while ever open to conviction by logical and honest argument, insensible to the blandishments of baseless popular Theory; our duty to you demands this course; we are to assist in preparing you for the great and responsible duty of custodians of the health and lives of your fellow men; we will not be recreant to this duty; our reputations as teachers and as physicians are at stake, and we desire to fear no appeal to conscience, the only tribunal from which there is no appeal.

The profession you have selected, gentlemen, is a noble one, respected by men, and commended by Divine authority. The vocation of healing formed a large part of the mission of the Saviour on earth, and has enlisted the talents and devotion of the best and greatest men who have ever lived. Its duties are not to be entered upon lightly, but with an honest sense of their responsibility. Carelessness is in all cases unpardonable and indifference criminal. Your acts as practitioners are not open to the criticism of the public, as in other callings; the laity know nothing of physic; you are alone the judges and your conscience must be your guide. It is a pure and sublime vocation, in whose paths angels might tread, and may boast truly of having enlisted in its pursuit more good men than any other, not even excepting the profession of Divinity. Through all ages it has avoided entanglement with the turmoils which have from time to time agitated the world, and while engaged in those controversies which legitimately belong to its members upon points only understood by them, it has left the world to wrangle and its fellow-men to decide as to their own morals, to select, each, his own road to Heaven, or agree or disagree as to the best form of government; as individuals of the community they have indulged their opinions in regard to public matters; governed each his own morals, worshipped according to his own ideas of religious duty, and supported or opposed public authorities in governmental affairs as might be dictated by his own judgment, leaving to every one the same privilege. None of these subjects have ever been known to influence them as a body; their unity has consisted of devotion to Medical science, a joint

interest in every thing relating to their profession has bound them together and makes them an indivisible brotherhood. This has been illustrated by the course of our profession during the late Rebellion in our country; while each individual member of that profession had his opinions as to the merits of the struggle, boldly and fearlessly maintained and asserted them, and performed all his duties as a patriotic citizen, when such were required, the chief efforts of each in every section were devotion to the legitimate objects of his life, ministering to the necessities of the helpless, sick and dying, giving to foes as well as friends when thus fallen, all the benefits of his skill heartily and cheerfully. As a body our profession have held aloof from all association with partizan strife, and is one of the few, if not the only institution, so preserved in our country. During the darkest hours of the bitter strife the hope has never died of meeting again by the members of our brotherhood, and shutting out all painful remembrances, to travel once more the peaceful paths of Medical science, animated by the same impulses, cheered by the same prospects of extending the sum of knowledge, and contending only in peaceful rivalry for prominence in such pursuit. Since the war closed we have seen that happy reunion effected; Medical men from every section of our country, of all shades of political opinion, who had formed part of the contending hosts during the deadly strife which swept over the land, have met to give and take the extended hand of fellowship, and resume the labors of our annual Congress.

Every year as our profession assembled as the National Medical Association, expressions of kindly feeling and a desire to renew ancient and friendly intercourse, have had utterance, and in 1868 the practical evidence of sincerity in this was given by the selection of Dr. Baldwin, of Alabama, who presided at the meeting in New Orleans this year, assisted by Vice Presidents selected from East, West and South. The same spirit was exhibited at that meeting by selecting a gentleman from Ohio and other officers from the different sections of our country, thus setting aside all sectional feeling and reuniting the profession in its great mission. The kindest feeling prevailed at the meeting; no movement dictated by political feeling occurred; the unpleasant past was alluded to only as an epoch, in the eloquent address of the President, and all felt that though separated for a time, they had preserved the

"*esprit du corps*," and were now united and animated by the same spirit, as members of a fraternity of Medical philosophers and philanthropists, bound by the indissoluble tie of common interest in the promotion of knowledge for the benefit of the human race.

Not the least interesting feature of our institution, is the opportunity it offers to the many who from various motives have sought support from Government patronage, at the seat of Government, to procure a professional education. Heretofore, most of them have passed away with the party to which they belonged, to be succeeded by others subject to the same fate; barely sustaining themselves while in office, they have found at the end of their official life that they have only lost some of the most precious years of their youth, acquired no fortune, and indeed little else than habits which rather tend to diminish energy and enterprize. Now, the expenditure of a trifling sum annually, which would perhaps otherwise be squandered in unprofitable amusements, enables them to secure a profession which will render them capable of not only sustaining themselves comfortably, but giving them position amongst their fellow-men—making them useful members of society—and above all, enabling them to enjoy that independence which belongs only to those pursuits which a man conducts for himself, unrestrained by the dictum of any one, free to shape his own course, and to enjoy alone whatever of profit or renown he may attain by his talents and enterprise; many of those who have availed themselves of the opportunity thus offered, are now filling the most honorable positions in our navy and army, as well as adorning the circles in which they are moving in private life, all using the spring-time of life for the legitimate purpose of labor and self-denial for the attainment of rank, consideration, competence, and usefulness in middle life, and the peaceful enjoyment, in advancing age with its less active employment, of honors gained, reputation established, and means enough secured to place them beyond the power of any to disturb.

We have this year enlarged our means of teaching some of the branches of study most important to the medical student. Assistance has been given to the Chair of Anatomy so as to render certain the most extended demonstration of that subject. A course of lectures will be given upon the special subjects of Urinary Pathology and Therapeutics, so important to the modern medical man. The

subject of Physiology will be illustrated by vivisections and other ample means to convey a thorough knowledge of that most vitally important branch of knowledge. And the teaching of Medical Jurisprudence has been confided to a gentleman learned in that subject, who will impart to the student such information as will render him competent to discharge duties before Courts and Juries on matters of life and death to his fellow-men, the preservation of the morals of the community, at the same time promoting the ends of justice. There is perhaps no more important subject than this at the present time, when crime seems to be on the increase, and the most unsettled ideas exist upon the subject of impelling motives, particularly in regard to the various phases of insanity.

If I have fairly stated, in these few remarks, the character of the profession which you have chosen, and what is to be gained by its adoption, how much is there of labor before you, and devotion to those studies which are to fit you to enter upon it with credit—they must be entered upon with a single eye to their pursuit; they will bear no commingling with others; a miser's love for his gold, or a lover for his mistress, is not more exacting; with this feeling, there is no doubt of success—without it, all is failure. There is no limit to ambition in this sphere. Advancing in pathological developments, it may be reserved for some of you to discover a means of dissolving the calculus in the bladder—to arrest by prophylactic measures the ravages of cholera and yellow fever—or, destroying the germinal movements in tuberculosis, to preserve to society some of its fairest and brightest ornaments—restore the smile of happiness to the pallid and anxious mother as she watches over the fair and lovely daughter just advancing to womanhood, condemned by hereditary disease to be snatched from her, just as the beauty of her physical as well as intellectual nature is budding into life, dashing to earth all her dearest and brightest hopes, destroying the object around which all the joys of her life had clustered.

Position of prominence in the ranks of our profession is worthy of the ambition of any man. A medical man eminent for his skill and attainments, is entitled to the highest consideration amongst men: and if he adds to that, as he should do, the character of a Christian gentleman, he has secured not only renown here, but that eternal reward which is promised to the good and faithful.

ADDRESS

OF

J. HARRY THOMPSON, M. D.,

DELIVERED AT THE OPENING OF THE

COURSE OF LECTURES ON PHYSIOLOGY

BEFORE THE

Medical Department of Georgetown College,

October 2, 1869.

CORRESPONDENCE.

WASHINGTON, D. C.,
Oct. 14*th*, 1869.

DEAR SIR:

In behalf of the Senior and Junior Classes of Georgetown Medical College, we have the honor to request for publication a copy of the Address delivered by you on the 2d inst.

Very respectfully yours,

R. A. NEALE,
J. PARSONS,
C. P. BAKER,
Committee.

PROF. J. H. THOMPSON, M. D.

Messrs. RICH'D A. NEALE, JNO. PARSONS, C. P. BAKER,
Committee:

GENTLEMEN:—

In compliance with the request contained in your communication of the 14th inst., I herewith forward you a copy of the Address delivered by me on the 2d inst.

The opinions there expressed are somewhat at variance with those entertained by many of my professional brethren; they are, nevertheless, my honest convictions, and as such need no apology.

With many thanks for the compliment conferred, believe me,

Faithfully yours,

J. H. THOMPSON.

Oct. 16, 1869.

ADDRESS.

GENTLEMEN: It has been thought best by my colleagues that I should occupy the chair of Physiology made vacant by the resignation of my predecessor, and you will pardon me, I trust, if, ignoring the custom of an introductory address as "more honored in the breech than in the observance," I bring you somewhat hastily face to face with your subject.

You are doubtless aware that Physiology is a very considerable part of the foundation, and certainly the principal part of the field of the profession you propose to enter; and here on the threshold of that profession let me remind you, gentlemen, that as students in Medical science you have entered the lists of no ordinary tournament; you have stepped out upon the sands of no mock arena; the armor of preparation which you shall here forge is for no mean contest, but on the contrary, it is for a struggle that will tax the best energies of your mind, and call upon your utmost endurance and courage.

Like its sister sciences, Medicine has no limit but the universe, and one must be content to know comparatively little, and to acknowledge finally at the close of his professional career that the measure of his ignorance has been the measure of his wisdom and knowledge. So long as people continue to be born, new forms of disease must develop in them, and so long as matter exists it must resist, however vainly, its tendency to disease and decay. To aid this resistance is the object of your profession.

As a profession, it is, as I have intimated, undeveloped; it is *undervalued;* it is pre-eminently laborious; it is crowded; and leading to success in it, there is not the faintest trace of a "royal road." While a few Harveys and Hunters and Jenners have defied oblivion, thousands of their noble co-workers have been gathered into forgotten graves. The longer you live as practitioners, the more

surely will you learn to mistrust sudden and accidental notoriety in any line of life, and the greater will be your satisfaction in gradual development and slowly-increasing honors. My desire is not to insure your disappointment by depreciating your difficulties, but I can confidently assure you, that with average abilities, energy, indefatigable perseverance, conscientious study, and above all, *love* for this your life-work, there is no respectable position in your profession you may not occupy. You must *live to practice*—not merely *practice to live;* you must not only possess this love, but it must possess *you;* you must not only be "not slothful in business," but you must be "fervent in spirit."

I should not have indulged in these general remarks had I not meant them to apply equally to each department of your course and especially to my own; and while I am devoting myself to my duties with all the energy of which I am master, I should be paying but a poor compliment to your abilities and sincerity if I did not allow you a certain share in the toil and responsibility. Like certain portions of our country, there are vast wilds in science, and only as pioneers can we hope to occupy the beautiful places yet to be. Here, we are to acquire strength and learn the use of our tools; there, in the future, is our work, and somewhere is our reward.

It may be expected by some of you that I will prescribe some particular course of study, or that I will map out some prominent divisions or points, and explain the manner in which I intend to treat them. I doubt very much the wisdom of such a plan. I am fearful that before we had completed our course, we should be obliged to retrace our steps and candidly admit that we had been in error. Physiological research is continually undermining and blowing into the air the fancied strongholds of old theories; we shall therefore move cautiously, taking advantage of every new development. It shall be my duty to make you acquainted with whatever new truth may be discovered, but we must wait for it, using what we have, and accepting eagerly what the future may vouchsafe to us.

In the functions of the organs of our body, we recognize only another name for *life*, and as the minute anatomy of these organs and their functions comprise the science of Physiology, we have to confront at the very outset the perhaps unanswerable question,

"*What is life?*" What is this mysterious union of matter and spirit—two links joined by an invisible third? Life, with its miraculous faculties, capacities, abilities, possibilities, sensibilities—its evolutions and its productive and regenerative powers? What is that subtle agent that is continually harmonizing into one magnificent anthem, as it were, this exquisite mechanism of matter, and this more wonderful miracle of mind? Is all this functional harmony but the result of some physico-chemical cause? Shall we ignore the soul completely; or, admitting its existence, declare it wholly mysterious, and thus unworthy or rather unfruitful in positive results? It may be a difficult question to decide, but we must feel assured that this very mysterious agency has its realization in our own life. We must recollect that we know its functions as we study the character and operations of our minds; and when science affirms that life as an active principle is a simple negation, science, by a single stroke of her iron pen, has blotted our very souls out of existence. Against such presumption we naturally rebel.

Probably no subject has so vexed and yet fascinated the human mind as this vital principle we all feel, and cannot understand. Neither ancient nor modern has ever attempted the problem without utter confusion to his hopes, and with merely an idea as a result. A few of these ideas, however, have reached us from times even as remote as the age of Hypocrates, who conceived of an intermediate agent, neither matter nor spirit, partaking of the might of the one and the subtlety of the other.

Aristotle seems to attribute the organization of animals and vegetables and the vital actions manifested by them to a series of *animating principles*, differing according to the nature of the organized body in which they result, but all acting under the direction of one superior, animating power. Harvey, with excusable vanity, supposed the principle of life to reside in the blood.

Hunter thought that a "*materia vitæ*" is diffused throughout the fluids and solids of the body, accounting for and producing the phenomena of life. This *materia vitæ diffusa* was akin to the brain, which he termed the *materia vitæ coercevita.* The nerves are the channels of this materia, and he calls them *chorda internuncia.*

Abernethy considers the *materia vitæ* of Hunter to be a subtle

something, powerfully mobile in its nature, which pervades all organic bodies, and is similar to electricity.

Lewes defines life as a series of definite and successive changes, both of structure and composition, which occur without destroying the identity of the individual.

Spencer understands life to be a definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external co-existences and sequences.

In these several hypotheses we see absolutely nothing but the acknowledgment of the existence of this force, which seems so deeply hidden in the intricacies of our being. Neither in the "animating principles" of Aristotle nor the "vital quality" in the blood, as promulgated by Harvey, nor yet in the "*materia vitæ*" of Hunter, and the amendments to the same by Abernethy, nor yet again in the "definite changes" of Lewes and Spencer, can we recognize aught but *names* for the same unknown thing. Though these hypotheses fail, we have learned to admit at least an hypothesis which recognizes the *existence* of a vital force, communicable only by a pre-existing living agent. Whatever the changes produced by this vital force, it cannot be imitated by any ordinary force, nor will it obey the same laws. In neither quantity nor quality is it related to matter. It cannot act upon matter at a distance, nor upon the same particles for any length of time, and if new particles are not supplied vital action ceases, and death is the result.

In Physiology proper, we must penetrate the mysteries which *surround* our being. We must commence with a mere microscopic speck, and tracing this from the ovary to the womb, lift the veil from nature, and observe the wonderful metamorphosis through which it passes. At first, a mere homogeneous atom, gradually absorbing from the mother's tissues moisture and nourishment. Presently we see lines darting from a common centre, expanding and increasing, and forming tubes to conduct from the mother to the centre of the future being, materials out of which are to be constructed those complex organs which are to preside over and regulate the life of the future man or woman. Then, when all has been gained which the mother can impart to perfect the "master piece of creation," it quits its first abode, in obedience to an unerring law, and enters the universe a human soul ; the image of

its divine Creator—receiving from him something of his divine essence, in the possession of which consists his superiority over all other created beings.

We must investigate the material part of this being—the processes by which its growth is provided for. We must trace the food taken through the various processes of digestion. We shall see, how, when ready—millions of mouths are open to receive the *pabulum*, and convey it by different channels to the heart—from thence to be propelled through the lungs, received back again into the heart and then sent out to the general system, carrying with it vivifying stimuli and fresh material to repair the wear and tear of the different tissues. We must then trace the effete material produced by destructive metamorphosis to the various excretory organs, and thence to its final removal.

I shall ask you to explore with me those marvelous chambers, curtained at their portals by those exquisite textures which nature delights to weave, and which baffle the nicest skill of man to imitate. Upon this membrane of more than aspen sensitiveness is caught the faintest undulations in the air, stirred it may be by the lips of those whose mortal presence, we would not barter for a diadem. There, ever ready, waits the swift messenger of the soul to catch the vibrations as they echo from chamber to chamber, and to convey them with more than lightning rapidity to that mysterious entity, be it soul or mind, or whatever else we choose to term it, which is the impulse of our will, and the source of all our intellections. Then must we investigate all the channels of communication between the brain and its outer world—the special senses. And thus, step by step, mastering the Physiology of man, prepare ourselves to study him in a Pathological condition. For the better demonstration of some important truths, it will be necessary to perform in your presence certain *vivi sectiones*; and whatever morbed philanthopists may declaim against cruelty to animals, I shall resort to this method of demonstration whenever I deem it necessary; justified by the divinely established principle that whatever we find in the world that will minister to the welfare, comfort and improvement of man, we may appropriate—even to the extent of a life.

Let us now take a brief survey of some advancements in Medical science, which are more especially due to researches in Phys-

iology. There are special occasions when professions, like individuals, should review their mental progress, that in the retrospect they may be cheered to new efforts and gather good hope for the years to come.

Advances in practical science are not mere changes in ideas or in their modes of expression, but they are positive advances in knowledge. They are the addition of new truths to science, and the elimination of supposed truths, with their application to the advancement of the practical objects of the science. To quote the words of Sir William Jenner, "Advances in knowledge have not unfrequently been attended by a more correct appreciation of the action of drugs; and the expression of this appreciation has most erroneously been accepted as an evidence of scepticism." Thus, if I believe that saline aperients do not act as I had supposed they did, namely, by increasing the escape of watery matter from the radicals of the portal vein, I am not the less shaken in my belief, that the symptoms which I attribute to over-distension of the portal vein, are relieved by their action.

I here desire to repudiate absolutely all scepticism in regard to Medicine. I believe as confidently in the power of physicians to treat disease successfully as I ever did, and extended knowledge and accumulative experience have only increased my confidence in the remedial work.

My conviction, then, is with regard to the virtues of this or that particular drug, or this or that particular class of remedies, that although there is and always will be a difference of opinion—the evidence conclusive to one mind being insufficient for another—yet with regard to the value of drugs in the abstract, and with regard to the value of treatment, there is really very little difference of opinion among physicians equally well-informed as to the present state of Medical knowledge, and equally experienced in its practice—I say among men equally well informed—let me illustrate my meaning.

I was one of three who met in consultation concerning a case of apoplexy. In the opinion of one of my colleagues and myself the only treatment to be adopted was as follows:—To place the patient in the recumbent position, with head and shoulders raised; to enforce absolute rest; to keep the bowels so far loose as to prevent excitement and prevent straining; to apply cooling substances to the

head in the event of any heat of the part occurring; to support the patient with light nutritive food, having regard to his habits.

The third gentleman protested against the modern system of doing nothing; he was anxious to bleed, to purge, to blister; and, when opposed, was not sparing of the term sceptic, &c.

Now, the difference of opinion in this case was not due to scepticism on the one side and justifiable faith, *i. e.* faith justified by knowledge, on the other—but to knowledge on the one side, and absence of knowledge on the other.

The case was one of degenerative change, retrograde metamorphosis of the arteries; one had become so rotten that its wall had given way, its contents had escaped, a clot had formed, and by its mechanical effects had given rise to the symptoms. The heart sharing in the degenerative changes, the bleeding had ceased. To those who understood the real nature of the case, the lesions present, and the mode in which they had been produced—in short, the pathology of the case—belief in the efficacy of so-called active treatment, appeared to be not merely unjustifiable faith, foundationless faith, faith without knowledge, but to be faith in opposition to knowledge, which, in Medicine, is the worst form of scepticism, inasmuch as it is doubt of truth and belief in error—doubt which may prevent the saving of life, and belief which, embodied in practice, may kill.

Physiology has taught us the normal temperature of the body and what variations in temperature are consistent with health, and to it we owe the wonderful improvement in our means of Diagnosis and Prognosis in the clinical application of the Thermometer. If fever is suspected, for instance, and we find upon application of the Thermometer that there is no increased heat, we *know* no fever exists, and if there is an increase in temperature, we can grade its probable severity to a certainty. Then, again, its application is of the greatest service in cases of Latent Typhoid fever, and of Acute Tuberculosis. It is invaluable also in Prognosis, and in determining the value of the treatment pursued. To Physiology of the circulation we are indebted for the pathological knowledge of *Embolism*. And through its instrumentality we know at what period of life to look for Atheromatous and Heterolgous deposits in the Arteries.

Our knowledge of the Physiology of the heart's action, and the nerves by which its action is controlled, enables us to select such

remedies as are most suitable for the relief of the various pathological conditions to which it is subject.

To Physiology, Pathology owes its entire knowledge of *Addison's disease*, *Lewkaemia*, *Locomotor*, *Ataxy*, *Trichinosis*, *Cerebro Spinal Menengitis*, and all the long train of special diseases of the genito urinary organs. To Physiology, Therapeutics owes one of the most beneficial revolutions in Medicine that has ever occurred; nothing less than the annihilation of a theory that for ages had been the text of the profession in certain cases.

Some of you who have listened to my clinical lectures for the past three years, will remember perhaps the stand I have taken against the use of calomel or mercury in any form, for the purpose of exciting the liver to increased action; believing, as I did, that it arrested rather than promoted the increase of the biliary secretions.

In October, 1866, the British Medical Association authorized Dr. Hughes Bennett, to appoint a committee to investigate the action of mercury on animals. In accordance with these instructions, he secured the co-operation of the following gentlemen:

Dr. Christenson, Prof. Materia Medica and Therapeutics at Edinburgh; Dr. Maclagan, Prof. Medical Jurisprudence; Dr. Rogers, St. Petersburg; Dr. Rutherford, Prof. of Physiology, Edinburgh; Dr. Gamger, &c.

* "The Physiological Materia Medica and Medico-Legal laboratories of Edinburgh University were placed at their disposal. In this committee were united all the elements required to give confidence in the results arrived at:—the skill of the Anatomist; the Analytical power of the Chemist; the varied knowledge to the theoretical and practical of the Histologist, Physiologist, Physicist, Pathologist and Therapeutist, as well as the acquirements of the physician, whose knowledge of diagnosis cannot be impeached.

"In the committee, thus constituted, it appeared to me every confidence might reasonably be placed, as the energy and sanguine character of youth were sufficiently tempered with the caution and reasoning power of age, while every necessary instrument, appliance, and chemical, together with a public hospital, were at its disposal.

"The first meeting of the committee was held Nov. 16th, 1866. On proceeding to consider by what method the action of mercury on

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* Extract from Dr. Hughes Bennett's official report.

the biliary secretion was to be accurately ascertained the conclusion was arrived at that no kind of examination of the fæces could yield trustworthy results.

"Supposing that the chief and characteristic constituents of the bile found their way into the albine evacuations unchanged, imperfection in the analytical methods at our disposal render their quantitative analysis impossible."

After a brief reference to the methods adopted by Professor Hoppe-Seyler of Tübingen, Bidder, and Schmidt and others for ascertaining the amount of bile-acids and their generally uncertain results, he remarks: "As it is evident that no accurate information concerning the amount of bile secreted by the liver was to be obtained by an examination of the fæces, the committee arrived at the conclusion that the formation of biliary fistulæ in living animals, and collecting the bile directly through such fistulæ from the gall-bladder, was the only means open to them of determining how far mercury influenced that secretion."

The next step was to ascertain the amount of bile secreted in health, and the circumstances which increase or diminish it, and finally the special effect of mercury on the secretion of the liver.

The previous researches of Haller, (Tom. 6, p. 605, of his Physiology;) Schwann; Müller's Archives, 1844, p. 127; Blondlot, Essai sur le Functions du Foie, 1846; H. Nasse; Bidder & Schmidt; Verdauung's Säfte und der Sloffwechsel, 1852; Arnold Zur Physiologie der Galle, 1854; Kölliker and Müller, Scott, Dalton and Flint, were carefully noted and tabulated for the guidance of the committee.

Thus prepared, the committee commenced a series of vivi-sections upon thirty-three dogs. Every step in their investigations was carefully noted, tabulated, and submitted to the closest scrutiny, and after two years continuous labor, an unanimous report was presented to the British Medical Association August 7, 1868. I quote from this report:

"This series of observations is most *conclusive* as to the influence of large doses of blue pill and calomel which produce purgation. Under their influence there was a steady diminution in the amounts of hepatic secretion, and the moment these doses were suspended the quantity of bile again increased.

"It may be inferred from the results given in Table XII and

Table XIV, that so far from purgatives acting as a stimulant to the liver and increasing the flow of bile, they have a directly opposite effect."

In a further report read to the British Association at Norwich, upon the action of Podophyllin, the accuracy of this conclusion was established.

In concluding the report, Doctor Bennett makes the following remarks :

" As to anything that enables us to increase the amount of bile, beyond the giving food and supporting health, we are unacquainted with it. Perhaps there is no opinion in medicine more widely spread, and certainly there is none more universally acted upon, than that mercury does so ; in short, that it acts as a cholagogue. Yet, not only have the few experimenters who have directed their attention to this subject, *invariably* observed that mercury rather diminishes than increases the secretion of the bile, but the general results of the trials made by your committee fully confirm this conclusion.

" We have seen that in whatever form or dose it may be given, such as continuous moderate doses of blue pill, minute and frequently-repeated doses of calomel, or large doses varying from 10 to 15 grains, it UTTERLY fails to stimulate the liver.

" Its constitutional action has been excited slowly and rapidly by means of corrosive sublimate with a like result.

" In all these varied attempts, carefully repeated under every varying circumstance that could be thought of, no evidence was obtained that mercury acted specially upon the liver at all.

" The exact measurement of all the bile secreted in eight dogs, first without and then with mercury, tends rather to show, that so far from increasing the flow of bile, it causes its diminution, through its general depressing action on the entire organism. This fact seems now to be so *certain* and *thoroughly established* that the committee consider it unnecessary to make any further researches on the subject.

" It is unnecessary to dwell upon the importance of the results which the committee have taken so much pains to arrive at, if the reputation of a widespread *error* be as important as the establishment of a new truth, the practical advantage of demonstrating that mercury is not a cholagogue cannot be too highly estimated.

"As to the history of an opinion that has controlled the profession for centuries, we have but little light, and must receive it as a tradition, which has now been submitted to scientific investigation and found to be without the shadow of a foundation."

You are not to understand me as advising you to ignore the use of mercury under all circumstances, but I would here protest, as I have done elsewhere for years, against the use of mercury in any form, or of any other cathartic, with a view to increase the hepatic secretion; and bear in mind, that when men speak to you of their experience, the whole value of that experience will rest upon its consistency with established scientific facts, and it appears to be an established scientific fact, that neither mercury or any other cathartic will act as a cholagogue. If the biliary secretion is deficient it is owing most probably to a generally impaired condition of the health, and if you restore the function of the liver to a normal standard, it will be by a building up or tonic course of treatment, not by a debilitating or antiphlogistic regimen.

Medical Department of Georgetown College.

TWENTIETH MEDICAL SESSION—1869-70.

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Medical Department of Georgetown College.

Twentieth Session, 1869-70.

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